Abstract of the Disclosure

A novel neuroprotectant was identified by microarray analysis that is differentially expressed between the ventricular zone and the cortex of human adult and fetal brain. The secreted protein antagonizes Wnt action in Xenopus embryos. Methods are described for modulating free radical neurotoxicity by contacting cells with the protein, treating neuronal diseases associated with free radical-mediated cell death by administering the protein, determining neuroprotective genomic targets associated with select free radical toxicity pathways by screening with the protein and using the protein to identify other compounds that modulate the biological activity of the secreted protein and the cell machinery that reacts to the secreted protein.

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